

## Appendix P. Assembly and use of PVC wick applicators

### Cut-Stump Herbicide Applicator

The description below is of the original design. However, a more recently modified version can be found here:

<https://prairienebraska.files.wordpress.com/2012/12/killstick-flyer.pdf>

### Original Design

<http://www.stewardshipnetwork.org/sites/default/files/Herbicide-applicator.pdf>

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### Parts

- 1 – 1 inch diameter PVC threaded male cap
- 1 – 1 inch diameter PVC threaded female cap
- 1 – ¾ inch diameter PVC cap, unthreaded
- 1 – 1 inch diameter PVC threaded female coupling
- 3 – 1 inch diameter PVC threaded male coupling
- 1 – 1 inch diameter PVC 45° elbow coupling, unthreaded
- 1 – 1 inch diameter PVC threaded ball valve
- 1 – 1 inch diameter PVC pipe (12 to 15 inches)
- 2 – 1 inch diameter PVC pipe pieces, approximately 1 inch long
- 4 – 1½ inch diameter rubber lavatory gaskets
- Heavy-duty sponge (2 x 4 x 1½ inches)
- PVC cement
- PVC pipe cutters or hacksaw
- Drill, 1/16 inch bit, ¾ inch bit
- Ruler
- Scissors

### Assembly Instructions

Cement threaded male coupling onto one end of a length of PVC pipe (12 to 15 inch length suggested). Cement the threaded female coupling onto the other end of the pipe (reservoir). Additional PVC sections can be thread together to make a longer handle or reservoir when needed. Slip one rubber gasket over a threaded male cap and attach it to the threaded female end of reservoir. Slip one rubber gasket over threaded male end of reservoir, and attach one end of a threaded ball valve. The rubber gaskets will allow the sections of applicator to be tightened together snugly so that no herbicide will leak out around coarse PVC threads.

To make the “drip holes” for herbicide, cut off the bottom of the ¾ inch diameter PVC cap so that a flat disk remains. File disk until it fits snugly into the unthreaded 1 inch diameter PVC 45° elbow coupling. A ridge inside the elbow will keep the disk centered. Use a 1/16 inch drill bit to make two holes near the center of the disk. Cement the disk inside one end of the elbow coupling. Using the 1 inch diameter PVC pipe pieces (1 inch length or less), cement 1 inch diameter threaded male couplings onto each end of the elbow. Slip rubber gaskets over each threaded male

coupling. The end of the completed elbow without the drip holes disk attaches to the other end of the ball valve. Drill a  $\frac{3}{4}$  inch hole into the end of the 1 inch diameter PVC threaded female cap. The sponge tip twists into this  $\frac{3}{4}$  inch hole, and this cap is then threaded onto the end of the elbow with the drip holes disk.

The sponge tip, which is roughly 1 inch diameter by 1  $\frac{1}{2}$  inch length, can be cut with scissors, or a 1 inch diameter metal pipe section that is sharpened on one end can be used to rapidly cut out numerous sponge tips. Wet the sponge tip before twisting it into threaded female cap with the  $\frac{3}{4}$  inch hole. Allow  $\frac{1}{4}$  to  $\frac{1}{2}$  inch of sponge to extend out of tube to treat stump tops.

## **To Use**

With ball valve in the “OFF” or “CLOSED” position, pour the herbicide mix into the reservoir and close it with the threaded male cap (the top of applicator). Open the ball valve then slightly open the threaded male cap to allow air into the reservoir. Once the sponge tip begins to saturate, tighten the threaded male cap and close the ball valve. When the sponge is saturated, only a light touch to a cut-stump is needed. Open the ball valve when more herbicide is needed in the sponge tip.

## **Helpful Hints**

- During colder weather the ball valve may have to be left open to allow enough herbicide to saturate the sponge. Drip holes also can be made larger if faster herbicide flow is desired.
- Do not allow left-over herbicide mix to remain in the reservoir in extreme temperatures.
- Always clear drip holes of any residue before using the applicator again. A paper clip works well for cleaning out residues.
- When the sponge becomes worn, replace it (recommended after every work day at a minimum).
- When using the applicator during freezing conditions, duct tape a disposable chemical hand warmer around the section with the drip hole disk to reduce the chance of drip holes freezing shut.
- Use an herbicide dye to check for leaks, monitor applications, and identify any exposure to the person using the applicator.

For application of an oil based herbicide cut pieces of a floor finish applicator refill for the tip of the applicator. A heavy duty sponge can be cut for application of a water based herbicide. The tip should extend about  $\frac{1}{2}$ ” outside the tip. Adjust the ball valve to get the right amount of herbicide flow through the sprayer. The wand should be saturated and a quick touch to the stump should apply enough herbicide. It may be necessary to leave the valve all the way open, close it partially, or fully. The top cap also may need to be opened partially to increase herbicide flow.